UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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SEP 11 1992

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

MEMORANDUM

SUBJECT: Dicamba - Response from Registrant Regarding a TB II Review of a Structural Chromosome Aberration Study in Chinese Hamster Ovary (CHO) Cells; Study No. T5245.337;

TO: Judith Coombs/Walter Waldrop PM 71
SRRD (H7508W)

FROM: K. Clark Swentzel K. Clark Swentzel 9/2/92
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THROUGH: Marcia van Gemert, Ph.D. Marcia van Gemert 9/8/92
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CASE 818698
BARCODE: D181962
MRID none
SUBMISSION: S424293
PC NO. 029801
CASWELL NO. 295
REGISTRANT: Sandoz Inc.

Requested Action

Review Sandoz response to deficiency for GDLN: 84-2B for dicamba acid and indicate whether response is sufficient to fulfill the requirement.

TB II Review

TB II reviewed the subject study (EPA Memorandum, Swentzel to Stubbs, December 2, 1987) and concluded that although dicamba did not induce chromosome aberrations in this study, the registrant did not provide the purity or stability of the test material. It was further stated that this study could be upgraded to acceptable if the purity and stability of dicamba, under experimental conditions, as well as solubility data, to support the highest concentration selected for assay, were provided.

1 of 2

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Registrant's Response

The test material was dicamba tech. (86.8% purity); Batch No. 52625110. It was indicated that the solubility of dicamba in water is 6069 ppm, however, at this level there is an associated change in pH to 1.92. Dicamba is a strong acid (pKa 1.94); it is stable in water at pHs of 5, 7 and 9 (t1/2 > 30 days). The investigator (Microbiological Associates Inc.) indicated that the test material was prepared at its upper limit of solubility and neutralized with sodium hydroxide. "This resulted in the top dose of 2330 µg/ml." Dr. Donald Putnam (Microbiological Associates Inc.) clarified this, via a telephone conversation with this reviewer, by stating that the maximum soluble concentration of dicamba in DMSO (233 mg/ml) was prepared and then diluted 100X with sodium hydroxide since there is a 1% limitation of DMSO in the assay.

Conclusion

The registrant has provided a satisfactory response to the TB II questions regarding the purity, stability and solubility of the test material in the subject study. Therefore, Study No. T5245.337 may be upgraded to acceptable.